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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,805	08/04/2004	David Hagopian	27475/06963	4804

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EXAMINER
TUROCY, DAVID P

ART UNIT	PAPER NUMBER
1762	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/710,805	HAGOPIAN ET AL.	
	Examiner	Art Unit	
	David Turocy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-18,20-56,58,60-64 and 66-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-18,20-56,58,60-64 and 66-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/11/2007 has been entered.

Response to Amendment

2. Applicant's amendments, filed 6/11/2007, have been fully considered and reviewed by the examiner. The examiner notes the amendments to claims 1, 7, 20, 40, 46, 49, 51, 52, 53, 54, 56, 61, and 64 and the addition claims 66-77. Claims 1, 3-18, 20-56, 58, 60-64, and 66-77 are pending in the instant application.

The examiner notes the amendment to the specification to include details incorporated by reference.

Response to Arguments

3. The applicant's amendments, filed 6/11/2007, have been considered and reviewed by the examiner.

The applicants arguments, directed to the 35 USC 112 1st paragraph rejection, are deemed persuasive and therefore the rejection has been withdrawn.

The applicant has argued against both the Nielson and Hasenour reference stating that neither reference discloses atomizing with air. The applicant argues that the Nielson reference discloses atomizing with air will result in air bubbles in the coating and therefore teaches away from using air. However, the examiner disagrees. The preferred embodiment of using carbon dioxide as the atomizing gas is clearly not a teaching away that air is unoperable. Nielson discloses that air used to atomize is known and suitable in the art for deposition and atomization of 100% solid material and while Nielson discloses that under their standards CO_2 is preferred, they disclose air is known in the art as being operable and the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). Additionally the examiner notes that at paragprah 0034, Hasenour clearly discloses using air spray guns, air assisted sprays, etc. which inherently result in air atomization.

The applicant has argued against the Hasenour reference stating that the reference teaches away from using a belt speed below 35 fpm. However the examiner disagrees for atleast the reasoning of above, where Hasenour clearly discloses 35 fpm or less is known in the prior art as suitable for coating a substrate and while, Hasenour discloses preferably coating with a faster speed, the disclosure of a preferred embodiment is not a teaching away from non preferred embodiments.

The applicant has argued against the Nielson reference stating that the reference discloses atomizing with carbon dioxide heated rather then air, however, as discussed

above, the teachings of Hasenour in view of Nielson or visa versa would have reasonably suggested using air to atomize to one of ordinary skill in the art with a reasonable expectation of successfully providing a coated substrate.

The applicant has argued against the prior art citing that none of the applied references discloses heating the coating material prior to atomization. However, the examiner notes Myers and Hoy cited below. Myers et al. teaches that when spray coating high solids materials onto wooden substrates it is desirable to control the temperature of the spray, if the temperature of the spray is too hot the coating will sag and if it is too cool the material will not vaporize properly the proper temperature should be between 65 and 150 ºF (column 5 lines 18-29). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor the temperature of the spray at regular intervals and to adjust the temperature of the input streams to ensure a temperature of between 65 and 150 ºF is maintained as suggested by Myers et al. with an expectation of forming a high quality coating that doesn't sag and that was formed by a well atomized spray. Additionally, Hoy et al. discloses when using air atomization spray techniques it is known in the art to heat the coating material, the air or both heated. Hoy discloses heating the material reduces the viscosity of the coating material and aids in atomization (Column 2, lines 1-5). Therefore it would have been obvious to one of ordinary skill in the art at to have heated the coating material, the air, or both to reduce the viscosity in order to aid atomization. It also would have been obvious to one of ordinary skill in the art to have determined the

optimum temperature for preheating the coating material, the air, or both, using routine experimentation to provide the desired viscosity and atomization.

The applicant has argued against the examiners rejection with respect to the wet and dry thickness being substantially equal. The examiner notes that Hasenour discloses an equal wet and dry thickness (0006), and maintains the position that Hasenour must have a thickness of a coating and it is well within the skill of one ordinary in the art to determine the optimal value for the coating thickness used in the process of Hasenour et al. through routine experimentation, to impart the wood cabinet substrate with the desired properties associated with a coating thickness. Additionally, the examiner notes the statement, at 0010 of the applicant's specification, which states as fact that the 100 percent solid coatings have equal wet and dry film thickness.

All other arguments are deemed moot because they are directed to newly added limitations that were not present at the time of the prior rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-7, 12, 13, 32-35, and 66 are rejected under 103(a) as being unpatentable over Hasenour et al. (US Patent Application Publication No. 2003/0183166).

Referring to claim 1, Hasenour et al. discloses coating a three-dimensional substrate using a coating material comprised of 100% solids material , applying the coating to a three-dimensional substrate to provide a uniform thin film coating of the coating material on the three-dimensional substrate (paragraph 11, paragraph 37). Hasenour discloses atomization with air (0034). Hasenour discloses moving the substrate at speed of less than 35 feet per minute (paragraph 37). Hasenour et al. discloses cabinet doors have depressed and recessed areas, which could broadly read on a "stepped surface" as required by the claim (0005). Additionally, the While the examiner notes the desired speed of the conveyor is actually 50-300 fpm, the disclosure of Hasenour clearly discloses 35 fpm or less, while not desired, still operable.

Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose the desired coating thickness. However, the coating as taught by Hasenour et al. clearly has a thickness and discloses applying a coating with coatings and it is the examiners position that coating thickness is a known result effective variable. If the thickness is too high or low it would result in improper coating.

Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the coating thickness used in the process of Hasenour et al. through routine experimentation, to impart the wood cabinet substrate with the desired properties associated with a coating thickness.

Referring to claim 4, Hasenour et al. discloses the coating material can be UV curable (paragraph 6).

Referring to claims 5 and 6, Hasenour et al. discloses the substrate can be a wooden cabinet door (paragraphs 5 and 6).

Referring to claim 7, Hasenour et al. discloses spraying the coating using air assisted spray gun inherently atomizes the material (paragraph 34).

Referring to claim 12, Hasenour et al. discloses the 100% solids material is applied then cured using UV light (paragraph 5).

Referring to claim 13, Hasenour et al. discloses that the wet and dry coatings are the same thickness (paragraph 6).

Referring to claims 32, 33, 34 and 35, Hasenour et al. discloses the substrate is moved in and out of the spray chamber on a conveyor belt (paragraph 31. The spray chamber is located within an applicator (paragraph 16).

Referring to claim 52, Hasenour et al. discloses applying a solvent material that is substantially solvent-free to a thee-dimensional substrate and forming a uniform thin film on the three-dimensional substrate (paragraphs 5, 6, 11).

Referring to claim 53, Hasenour et al. discloses applying a solvent material that is substantially solvent-free to a thee-dimensional substrate and forming a uniform thin film on the three-dimensional substrate wherein the coating material is recyclable (paragraphs 5, 6, 11 and 35)

Referring to claim 56, Hasenour et al. discloses applying a solvent material that is 25% or less solvent to a thee-dimensional substrate and forming a uniform thin film on the three-dimensional substrate (paragraphs 5, 6, 11).

6. Claims 1, 3-13, 18, 20-22, 28, 32-35, 39-50, 66, 67, 68, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen (US Patent No. 5,989,638) in view of Hasenour et al. or visa versa.

Referring to claim 1, Nielsen discloses a method for coating a substrate, while it does not specifically disclose a three dimensional substrate, all substrates are inherently three dimensional (column 16 lines 57-63). The coating material is a high solids content material of 78.70 weight percent solids (column 25 lines 25-27). This can be interpreted to be a "substantially solvent free" material and thus would fit the definition on page 4 of the specification for a 100% solvent material. Therefore Nielsen discloses a method for applying a 100% solids material to a three-dimensional wood substrate forming a thin uniform film (Column 16, lines 56-65, column 17 lines 16-26).

Alternatively, the example given in the Nielsen is 1.30% less than the "twenty percent or less solvent", which is defined in the specification as 100% solids (page 4). However, the instant invention of Nielsen is not bound by this weight percent of 78.70 but rather "high solids content" materials. The value given is only an exemplification and it would have been obvious to one of ordinary skill in the art at the time the invention was made that the Nielsen invention can function at higher weight percentages including 80% solids and greater. This is desirable as the higher weight percentage of solids decreases the amount of solvent and air toxics that need to be evaporated off into the atmosphere (column 6 lines 38-50).

Nielson fails to disclose moving the substrate at 35 ft/min. However, it is the examiners position that the process parameter of moving speed of a substrate relative to the spray nozzle is a known result effective variable. If speed is to low it would result in coating too thick and too high a speed would result in too low a thickness. Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the speed used in the process of Nielson, through routine experimentation, to impart the wood with the desired coating thickness.

Nielson fails to disclose applying the coating formulation to a wood cabinet door. However, since Nielson discloses forming uniform thin films, on the micron scale onto wood substrate and Hasenour et al. discloses wood cabinet door benefit from such thin films, taking the references collectively, it would have been obvious to one of ordinary skill in the art, to have modified Nielson to apply the high solid content ratio coating material to the wood cabinet door with a reasonable expectation of provided the desired thin film coating.

Alternatively, Hasenour et al. applied here as applied above in the 35 USC 103(a) rejection, discloses applying a solvent and polymer material to a cabinet door is known in the art to provide thin coatings. While the examiner notes Hasenour et al. discloses a problem with a solvent is limited recovery and/or removing the solvent, such a disclosure is not a teaching away from such a system but rather a teaching of a preferred method. Hasenour et al. clearly discloses applying a diluted solvent/polymer system is known in the art to coat wood cabinet substrates on a conveyor. Therefore it

would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hasenour et al. with the high content spray application as taught by Nielson, with a reasonable expectation of success, because Hasenour et al. discloses cabinet doors are known in the art to be coated with thin uniform coatings using a polymer solution and Nielson discloses using such a system provides a thin coating without entrapment bubbles.

Referring to claim 3, Nielsen discloses forming a thin film with a thickness of 0.2 mils (column 17 lines 16-26).

Referring to claim 4, Nielsen discloses the coating material is UV curable (column 17 lines 56-61).

Referring to claim 5, Nielsen discloses the substrate can be comprised of wood (column 16 lines 57-63).

Referring to claim 7, Nielsen discloses a spray coating process, which acts to atomize the liquid coating material column 1 lines 52-65).

Referring to claim 8, Nielsen discloses the atomization stream is temperature controlled (column 19 lines 45-57).

Referring to claims 9 and 10, Nielsen discloses the stream is at 140 °F (column 19 lines 45-57).

Referring to claim 11, Nielsen discloses the average particle size is from 15-50 microns (column 17 lines 1-6)

Referring to claim 12, Nielsen discloses that the coating material forms a wet film and is cured to form a dry film (column 17 lines 16-26, lines 57-61).

Referring to claim 13, Nielsen discloses that the wet film and dry film are substantially equal in thickness (column 26 lines 60-65).

Referring to claim 18, Nielsen discloses a method using spray gun that produced droplets with a mean diameter of 25 microns (column 25 lines 49-61).

Referring to claim 28, Nielsen discloses measuring the temperature of the discharge stream from a spray gun (column 25 lines 49-61).

Referring to claim 32, Nielsen discloses that the substrate is moving along a conveyor to enter and leave the application region (column 34, lines 5-35).

Referring to claims 33, 34 and 35 Nielsen discloses that the substrate is coated in a chamber, a cabinet that contains an applicator, a reciprocating automatic spray gun (column 34 lines 5-35).

Referring to claim 39, Nielsen discloses controlling the particles size to between 15 and 50 microns and discloses controlling the pressure of the carbon dioxide used to flow the material (column 17 lines 1-6, column 19 lines 46-57). Controlling the pressure inherently controls the velocity of the particles. Thus controlling the particle size and the particle velocity inherently controls the particles momentum.

Referring to claim 40, Nielsen discloses a process for applying a 100% solids material atomizing the material and heating it to 140 °F as described above.

Referring to claim 41, the atomization is provided by spray guns (column 34 lines 5-35).

Referring to claim 42, Nielsen discloses the temperature of the atomized spray is known, therefor a temperature sensor must have been used to measure the temperature of the atomized coating material (column 25 lines 49-61).

Referring to claim 43, Nielsen discloses that the mixture is heated prior to spraying in order to maintain the spray temperature at the desired value (column 25 lines 49-61).

Referring to claim 44, all substrates are three-dimensional.

Referring to claim 46, Nielsen discloses a process for coating a three-dimensional substrate to form a uniform wet build drying the uniform wet build to form a uniform dry build (column 34 lines 5-35). As discussed above the film thickness can be less than 0.001 inches and can be substantially equal.

Referring to claim 47, Nielsen discloses the coating material can be 100% solids material as discussed above.

Referring to claim 49, Nielsen discloses a process for coating a three-dimensional substrate by atomizing a 100 % solids material using a spray gun and depositing the spray onto the substrate measuring the temperature of the spray and controlling it to 140 ºF as discussed above. The temperature of the coating material is controlled in order to maintain the temperature of the spray at the desired temperature, while this is not stated it is inherently necessary to do so in order to control the temperature of the spray.

Referring to claim 51, 52, 54-56 all aspects of these claims have been shown above.

Referring to claim 53, Nielsen discloses a process for coating a three dimensional substrate by applying a coating material on the substrate that is less than 25% solvent in a uniform thin film (column 17 lines 16-26, column 25 lines 25-27). Any material sprayed onto the substrate has the ability of having the excess collected and reused thus all materials are recyclable. Furthermore, all chemical reactions are theoretically reversible so that any chemical reaction that occurs with the deposited material can theoretically be undone and the material can be reused.

Referring to claim 55, Nielsen discloses the films are substantially the same thickness when wet and when dry (column 26 lines 60-65).

Referring to claim 56, Nielsen discloses a process for coating a material that is less than 25% solvent and applying that coating material to a three dimensional substrate to form a uniform thin film coating on the substrate as discussed above.

Claims 57-64: All the limitations of these claims have been addressed above.

7. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasenour et al in view of US Patent 6231931 by Blazey et al.

Claims 14-16: Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose a coating material comprising a sealer and a topcoat applied in different steps. However, Blazey discloses a process for coating a three-dimensional substrate comprising: supplying a coating of 100% solid materials to the three-dimensional substrate, and applying the coating material to the substrate to provide a uniform thin film coating of said coated material on

the substrate (column 2 lines 8-23, 28-40, 49-59). Blazey discloses applying a UV curable polymer sealer to the wood substrate, which provides protection from moisture and prevents undesired warping and degradation of the substrate (Column 2, lines 15-50). Blazey discloses applying a UV curable topcoat onto the sealer, which provides durability and aids in light refraction to make the surface aesthetically pleasing.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hasenour et al. to use the sealer and topcoat as suggested by Blazey with a reasonable expectation of success to provide a desirable coating for a wood cabinet substrate to reap the benefits of a cabinet coating which prevents warpage and/or degradation while also providing an aesthetically pleasing surface.

Claim 17: Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose a sanding or scuffing the substrate. However, Blazey discloses a method for spraying a UV curable polymer on a substrate discloses a step of scuffing promotes adhesion of the polymer coating to the sub substrate (Column 3, lines 28-31). Therefore it would have been obvious to one of ordinary skill in the art to modify Hasenour et al. to provide scuffing or sanding of the substrate prior to coating as suggested by Blazey with a reasonable expectation of success to reap the benefits of better adhesion between the coating and substrate.

8. Claims 23-27, 53, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds (US Patent No. 5,478,014).

Referring to claims 23 and 24, Nielsen in view of Hasenour et al. or visa versa discloses using a spray coating method to apply a coating of 100% solids materials as discussed above however fails to disclose the method of heating the pressurized air. However, Hynds teaches that when using a spray system for high solid content spray streams (column 4, lines 1-15). Hynds also teaches it is beneficial to heat the air stream in order to quicken the drying time and atomize the material (column 1 lines 7-13). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa to heat the air stream in order to dissolve the solvent (which may be present in 100% solids materials page 4 specification) and help atomize the material as suggested by Hynds to reap the benefits of a more faster drying coating.

Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds do not give the temperature of the heated gas in a range between 80 and 160 ºF. However, Nielsen teaches that when applying a coating of high solids content material it is desirable to have the temperature at 140 ºF. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds heat, the gas to a temperature of 140 ºF as suggested by Nielsen with a reasonable expectation of successfully coating the material onto a substrate.

Referring to claims 26 and 27, the heat is supplied from as external source that is a component of the spray gun (column 6 lines 37-50).

9. Claims 51, 52, 54, 56, 58, 60-64, 70, 71, 73, 74, 75, and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa as applied above in the 35 USC 103(a) rejection and further in view of Myers et al. (US Patent No. 5,290,598) and Hoy et al. (US Patent 5057342).

Referring to claim 29-31, Nielsen discloses all of the features as discussed above but does not disclose measuring the temperature in regular intervals or adjusting the temperature of the input streams to maintain the discharge temperature between 80 and 160 ºF.

The references fail to disclose heating the coating material or heating the air to the claimed temperature prior to atomization. However, Myers et al. teaches that when spray coating high solids materials onto wooden substrates it is desirable to control the temperature of the spray, if the temperature of the spray is too hot the coating will sag and if it is too cool the material will not vaporize properly the proper temperature should be between 65 and 150 ºF (column 5 lines 18-29). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor the temperature of the spray at regular intervals and to adjust the temperature of the input streams to ensure a temperature of between 65 and 150 ºF is maintained as suggested by Myers et al. with an expectation of forming a high quality coating that doesn't sag and that was formed by a well atomized spray.

Additionally, Hoy et al. discloses when using air atomization spray techniques it is known in the art to heat the coating material, the air or both heated. Hoy discloses heating the material reduces the viscosity of the coating material and aids in atomization (Column 2, lines 1-5). Therefore it would have been obvious to one of ordinary skill in the art at to have heated the coating material, the air, or both to reduce the viscosity in order to aid atomization. It also would have been obvious to one of ordinary skill in the art to have determined the optimum temperature for preheating the coating material, the air, or both, using routine experimentation to provide the desired viscosity and atomization.

Finally, it is the examiners position that the claimed invention is merely the predictable use of prior art elements (heating the atomizing air and heating the coating material, or both) according to their established functions (to provide effective atomization of the 100% solid coating material). See KSR Int'l Inc. v. Telelfex Inc., 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

10. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa as applied above in the 35 USC 103(a) rejection and further in view of Cueller et al. (US Patent No. 5,669,974).

Referring to claim 37, Nielsen discloses all of the features of the claim except it does not disclose heating the substrate prior to applying the coating. However, Cueller et al. teaches that heating the substrate to 110-145 °F prior to applying the coating helps prevent crinkling if the pad is too hot and or dripping if the pad is too cool (column

7 lines 8-44). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen to include heating the substrate as suggested by Cueller et al. with an expectation of preventing crinkling and dripping of the coating.

Additionally, it is the examiners position that the claimed invention is merely the predictable use of prior art elements (heating the substrate) according to their established functions (to preventing crinkling and dripping of the coating). See KSR Int'l Inc. v. Telelfex Inc., 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

11. Claims 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa and Cueller et al. as applied to claim 37 above, and further in view of Fannon (US Patent Application Publication 2002/0033134).

Referring to claim 38, Nielsen in view of Hasenour et al. or visa versa and Cueller et al. teaches all the features of claim 38 except they do not teach to heat the substrate with infrared heaters. However, Fannon teaches that applying infrared heat to the substrate helps increase the efficiency of the processing coatings on wooden substrates (paragraphs 1 and 12). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa and Cueller et al. to include infrared heating of the substrate as suggested by Fannon with an expectation of increasing the efficiency of the processing coating.

Rèferring to claim 36, since it is desirable to heat the substrate and the spray to a temperature of approximately 140 ºF as discussed above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the chamber to approximately the same temperature to prevent either the substrate or the spray from cooling down prior to or during the coating process. The disadvantages of having the substrate and the spray temperatures deviate from the desired values have been expressed above and it would be obvious to heat the chamber to the desired temperature to remove any temperature gradient driving force that could possibly result in poor coating of the material onto the substrate.

12. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa further in view of Myers and Hoy as applied above in the 35 USC 103(a) rejection and further in view of Cueller et al. (US Patent No. 5,669,974).

Nielsen in view of Hasenour et al. or visa versa further in view of Myers and Hoy is applied here as applied above, however, fail to teach heating the substrate. However, Cueller et al. teaches that heating the substrate to 110-145 ºF prior to applying the coating helps prevent crinkling if the pad is too hot and or dripping if the pad is too cool (column 7 lines 8-44). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa further in view of Myers and Hoy to include heating the

substrate as suggested by Cueller et al. with an expectation of preventing crinkling and dripping of the coating.

Additionally, it is the examiners position that the claimed invention is merely the predictable use of prior art elements (heating the substrate, heating the atomizing air and heating the coating material) according to their established functions (to provide effective atomization and preventing crinkling and dripping of the coating). See KSR Int'l Inc. v. Telelfex Inc., 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/
Patent Examiner
AU 1762

TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER